

## **MOLECULAR WIRE INJECTION SENSORS**

### **Abstract of the Disclosure**

5           Disclosed is a sensor for sensing the presence of an analyte component without  
relying on redox mediators. This sensor includes (a) a plurality of conductive polymer  
strands each having at least a first end and a second end and each aligned in a substantially  
common orientation; (b) a plurality of molecular recognition headgroups having an affinity  
for the analyte component and being attached to the first ends of the conductive polymer  
10 strands; and (c) an electrode substrate attached to the conductive polymer strands at the  
second ends. The electrode substrate is capable of reporting to an electronic circuit  
reception of mobile charge carriers (electrons or holes) from the conductive polymer  
strands. The electrode substrate may be a photovoltaic diode.